



Continuity and Change in the Operational Dynamics of the Islamic State

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Continuity and Change in the Operational Dynamics of the Islamic State

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Abstract

In this article we estimate the influence of leadership changes on the operational dynamics associated with terrorist attacks conducted by the Islamic State and its predecessors. Because the focus of our research is empirical, the study uses data for 2,131 successful attacks between October 2002 and December 2014 to examine differentials in operational tempo, attack severity, primary tactics employed, and principal targets. The data are aggregated on a monthly basis to estimate the probabilities associated with specific attack sequences in terms of the following primary tactics: (1) firearms, (2) explosives, (3) hostage-taking/kidnapping, and (4) attacks involving combinations of (1), (2), and/or (3). The analysis is placed in a broad historical and strategic context in order to explore two key issues: (1) The effect of leadership change on terrorist group activity and (2) The implications for counterterrorism and counterinsurgency efforts. Our analysis reveals a myriad of conceptual, theoretical, and policy implications.

Disclaimer

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Introduction

The centrality of leadership has long been a key tenet of organizational theory. In the literature, we find a wide variety of studies focusing on the role that leaders play in shaping both operational and organizational success.¹ This is particularly true of charismatic individuals central to clandestine entities such as criminal enterprises or terrorist groups who may influence many aspects of their organizations that encompass identity, structure, and operations.² Case studies such as Peru's *Sendero Luminoso* (Shining Path) demonstrate leadership decapitation including targeted assassinations have caused terrorist campaigns to end and for groups to cease operations if the transition to a new leader is unsuccessful.³ By contrast, other studies have concluded decapitation strategies may have no measurable impact or be counterproductive.⁴ As a result, the impact of leadership on continuity and

¹ Sinan Aral and Dylan Walker, "Identifying influential and susceptible members of social networks," *Science* 337, no. 6092 (2012): 337–341; John G.R. Dyer, Anders Johansson, Dirk Helbing, Iain D. Couzin, and Jens Krause, "Leadership, Consensus Decision Making and Collective Behavior in Humans," *Philosophical Transactions Royal Society B* 364 (2009): 781–789; Victor M. Eguíluz, Martin G. Zimmermann, Camilo J. Cela-Conde, and Maxi San Miguel, "Cooperation and the Emergence of Role Differentiation in the Dynamics of Social Networks," *American Journal of Sociology* 110, no. 4 (2005): 977–1008; Mario Diani, "Leaders' or brokers? Positions and Influence in Social Movement Networks," in *Social movements and networks: relational approaches to collective action* eds. Mario Diani and Doug McAdam, (Oxford, UK: Oxford University Press, 2003); Robert R. Blake and Jane S. Mouton, "Theory and Research for Developing a Science of Leadership," *Journal of Applied Behavioural Science* 18, no. 3 (1982): 275–291; Fred E. Fielder, *A Theory of Leadership Effectiveness* (New York: McGraw-Hill, 1967); Rocco Carzo Jr., "Some Effects of Organization Structure on Group Effectiveness," *Administrative Science Quarterly* 7, no. 4 (1963): 393–424; Amitai Etzioni, *A Comparative Analysis of Complex Organizations* (New York: Free Press, 1961); Oscar Grusky, "Administrative Succession in Formal Organizations," *Social Forces* 39 (1960): 105–115; Max Weber, *The Theory of Social and Economic Organizations* (New York: Free Press, 1947).

² Andrew R. Molnar, William A. Lybrand, Loma Hahn, James L. Kirkmand, and Peter B. Riddleberger, *Undergrounds, Revolutionary, and Resistance Warfare* (Washington, DC: Special Operations Research Office, 1963), available at: <http://www.dtic.mil/dtic/tr/fulltext/u2/436353.pdf>.

³ Patrick B. Johnston, "Does Decapitation Work? Assessing the Effectiveness of Leadership Targeting in Counterinsurgency Campaigns," *International Security* 36, no. 4 (2012): 47–79; Audrey K. Cronin, *How Terrorism Ends: Understanding the Decline and Demise of Terrorist Campaigns* (Princeton, NJ: Princeton University Press, 2009); Cynthia McClintock, *Revolutionary Movements in Latin America* (Washington, DC: United States Institute of Peace Press, 1998).

⁴ Jenna Jordan, "Attacking the Leader, Missing the Mark," *International Security* 38, no. 4 (2014): 7–38; Blake W. Mobley, *Terrorism and Counterintelligence: How Terrorist Groups Elude Detection* (New York: Columbia University Press, 2012); Bryan C. Price, "Targeting Top Terrorists," *International Security* 36 (2012): 9–46; Zaryab Iqbal and Christopher Zorn, "The Political Consequences of Assassination," *Journal of Conflict Resolution* 52, no. 3 (2008): 385–400; Aaron Mannes, "Testing the Snake Head Strategy: Does Killing or Capturing Its Leaders Reduce a Terrorist Group's Activity?" *Journal of International Policy Solutions* 9 (2008): 40–49; Daniel Byman, "Do Targeted Killings Work?" *Foreign Affairs* 85, no. 2 (2006): 102–104; Victor D.

change in the operational dynamics of terrorist attacks, especially groups that function with leadership transitions spanning multiple years, remains an open research question with implications for counterterrorism and counterinsurgency policy.

Terrorist groups that manage to sustain organizational viability over a multi-year period are dynamic, networked organizations capable of adaptive behaviors that promote group stability.⁵ Modern terrorist organizations also are often composed of quasi-independent cells with distributed or decentralized command and control structures.⁶ Given these attributes, we expect successful jihadist terrorist organizations adapt rapidly to shifting circumstances and are difficult to destabilize. This is not surprising because *The 2014-2015 Report Card on International Cooperation* produced by the Council of Councils, which draws on 25 leading foreign policy institutes from around the world roughly tracking the composition of the G20, ranked combatting transnational terrorism as the third highest priority global challenge for 2015.⁷ The report noted the emergence of Islamic State (IS), also referred to as the Islamic State in Iraq and the Levant (ISIL - original name for the group in Arabic was *Al-Dawla Al-Islamiya fi al-Iraq wa al-Sham* sometimes transliterated as *Daesh*) or the Islamic State in Iraq and al-Syria (ISIS) unambiguously underscores the difficulty inherent in preventing terrorism. In fact, IS has been able to maintain group cohesion, stage attacks, and control territory despite three leadership transitions stemming from targeted assassinations.

Hyder, *Decapitation Operations* (Ft. Leavenworth, KS: School of Advanced Military Studies, 2004); Lisa Langdon, Alexander J. Sarapu, and Matthew Wells, "Targeting the Leadership of Terrorist and Insurgent Movements: Historical Lessons for Contemporary Policy Makers," *Journal of Public and International Affairs* 15 (2004): 59–78.

⁵ Stanley McChrystal, Tatum Collins, David Silverman, and Chris Fussell, *Team of Teams: New Rules of Engagement for a Complex World* (New York: Penguin, 2015); Tara A. Leweling and Mark E. Nissen, "Defining and Exploring the Terrorism Field," *Technological Forecasting & Social Change* 74 (2007): 165-192; Brian A. Jackson, John C. Baker, Kim Cragin, John V. Parachini, and Horacio R. Trujillo, *Aptitude for Destruction*, Volume 2, MG-332-NIJ (Santa Monica, CA: Rand, 2005); Euell Elliott and Lowell D. Kiel, "A Complex Systems Approach for Developing Public Policy Toward Terrorism, Chaos," *Solitons and Fractals* 20 (2004): 63-68; Joshua M. Epstein, "Modeling Civil Violence," *Proceedings of the National Academy of Sciences* 99 (2002): 7243-7250; John Arquilla and David Ronfeldt, eds., *Networks and Netwars* (Santa Monica, CA: Rand, 2001); Martha Crenshaw, "An Organization Approach to the Analysis of Political Terrorism," *Orbis* 29 (1985): 465–489; Paul Lawrence and Jay Lorsch, "Differentiation and Integration in Complex Organizations," *Administrative Science Quarterly* 12, no. 1 (1967): 1-47.

⁶ Devin R. Springer, James L. Regens and David N. Edger, *Islamic Radicalism and Global Jihad* (Washington, DC: Georgetown University Press, 2009).

⁷ Council on Foreign Relations, *Council of Councils Report Card on International Cooperation 2014-2015*, (New York: Council on Foreign Relations, 2015), available at: <http://www.cfr.org/councilofcouncils/reportcard/#/>.

Although determining how to attack dynamic, networked organizations—let alone figuring out how they are likely to evolve, change, and adapt—is terribly difficult, it nevertheless is essential for successful counterterrorism and counterinsurgency.⁸ The assessment of destabilization strategies applied to terrorist groups, particularly those that mature into insurgencies and/or social movements, poses a number of key questions including: What are the primary tactics and targets of the group’s terrorist campaign? Do the tactics and targets evolve over time? What tactic is likely to be used next if a group employs tactic x for an attack? Consequently, what analytical techniques elucidate continuity and change in the operational dynamics of inherently covert entities given that we will be working with incomplete information?

In this article, we examine the operational tempo, attack severity, choice of tactics and targets, and independence of attack sequences used by IS and its predecessors for the period that begins in 2002 and ends in 2014. By focusing on IS, we examine a major adversarial threat which has experienced changes in of leadership over an extended time frame that spans more than 12 years. Moreover, the broader strategic environment within which IS and its predecessors have operated has also changed over time. Hence, it provides potential insights to explore two key issues: What is the effect of leadership change on terrorist group activity measured in terms of attack intensity (i.e., frequency), attack severity (i.e., casualties), targets, and tactics? What are the implications for counterterrorism and counterinsurgency efforts?

Evolution of the Islamic State

Evolving out of a series of predecessor organizations, the Islamic State is the most recent name used by one of the leading transnational jihadist groups based in the Middle East.⁹ As the name implies, IS has a pan-Islamic

⁸ McChrystal et al., *Team of Teams*; Mobley, *Terrorism and Counterintelligence*; Springer et al., *Islamic Radicalism and Global Jihad*; Kathleen M. Carley et al., “Destabilization of covert networks,” *Computational and Mathematical Organization Theory* 12, no. 1 (2006): 51-66; Elsayed Ahmed, Ahmed S. Elgazzar, and Ahmed S. Hegazi, “On Complex Adaptive Systems and Terrorism,” *Physics Letters A* 337, no. 2 (2005): 127-129; Robert P. Clark, *The Basque Insurgents* (Madison, WI: University of Wisconsin Press, 1984).

⁹ Jessica Stern and J.M. Berger, *ISIS* (New York: Ecco, 2015); James Fromson and Steven Simon, “ISIS,” *Survival* 57 (2015): 7-56; Ariel I. Ahram, “Sexual Violence and the Making of ISIS,” *Survival* 57 (2015): 57-77; Richard Barrett, Patrick Skinner, Robert McFadden, and Lila Ghosh, *The Islamic State* (New York: The Soufan Group, 2014).

agenda and announced in June 2014 that it had established a self-proclaimed caliphate (*al-Khilafah* in Arabic). The group's primary area of operation encompasses portions of Iraq, Syria, and the Levant; it controls territory within both Iraq and Syria. In addition, several radical Islamist groups in sub-Saharan Africa including al-Shabaab and Boko Haram as well as elements of the Taliban in Afghanistan have declared allegiance to the IS.

First appearing under the name ISIL in April 2013, the origins of the IS can be traced back to *Jama'at al-Tawhid wal-Jihad* (Arabic for Jihad Organization of Monotheism and Jihad) which was founded in 2002 under the charismatic and brutal leadership of Abu Musab al-Zarqawi, a Jordanian with links to al-Qa'ida starting in 1999.¹⁰ Tawhid wal-Jihad conducted its first documented successful terrorist attack in 2002 when it killed Lawrence Foley, a US Agency for International Development staffer working in Amman, Jordan.

With the 2003 American-led invasion of Iraq and subsequent Sunni insurgency, al-Zarqawi shifted the group's primary focus from Jordan to Iraq. Commonly referred to as the al-Zarqawi Network, it primarily operated within a 13,531.7 km² triangular area bounded by Baqubah on the east side of the triangle, Baghdad on the south side, Ramadi on the west side, and Tikrit on the north or apex side.¹¹ In 2004, al-Zarqawi swore *bay'ah*, an oath of loyalty to Usama bin Laden. The group then changed its name to reflect its formal alignment with al-Qa'ida. It became *Tanzim Qa'idat al-Jihad fi Bilad al-Rafidayn*, commonly called al-Qa'ida in Iraq or AQI.¹² AQI embraced a highly fundamentalist interpretation of Islam grounded in the Salafi tradition and viewed all those who deviated from its perspective as apostates or infidels, a worldview that remained constant throughout the group's existence.¹³ Although now called AQI, *Tanzim Qa'idat al-Jihad fi Bilad al-Rafidayn* was designated a Foreign Terrorist Organization (FTO) on December 17, 2004 by the US Department of State in accordance with Section 219 of the Immigration and Nationality Act.¹⁴

¹⁰ Joby Warrick, *Black Flags* (New York: Doubleday, 2016); David Kilcullen, *Blood Year* (New York: Oxford University Press, 2016); Michael Weiss and Hassan Hassan, *ISIS* (New York: Regan Arts, 2015); McChrystal et al., *Team of Teams*; Springer et al., *Islamic Radicalism and Global Jihad*.

¹¹ Springer et al., *Islamic Radicalism and Global Jihad*.

¹² M.J. Kirdar, *Al-Qaeda in Iraq* (Washington, DC: Center for Strategic and International Studies, 2011).

¹³ Weiss and Hassan, *ISIS*; Springer et al., *Islamic Radicalism and Global Jihad*.

¹⁴ US Department of State, *List of Foreign Terrorist Organizations* (Washington, DC: US Department of State, 2016), available at: <http://www.state.gov/j/ct/rls/other/des/123085.htm>.

A targeted US airstrike in June 2006 during the Anbar Awakening (*Ḥarakat al-Ṣaḥwah al-Sunnīyah*) killed Al-Zarqawi and the group's leadership passed to Abu Ayub al-Masri, an Egyptian national. Shortly after Zarqawi's death, AQI combined with several smaller extremist groups and once again renamed itself. AQI re-branded itself as the Islamic State of Iraq (ISI)—a change that reflected the group's efforts to hold and control territory as well as its ambition to obtain universal leadership of the Islamic community—and joined the Mujahidin Shura Council.¹⁵ Following the successful leadership transition, al-Masri served as ISI's leader along with Abu Omar al-Qurashi al-Baghdadi—an Iraqi national—until US and Iraqi forces killed them in April 2010.

Immediately following the death of al-Masri, IS again successfully executed a leadership transition and Abu Bakr al-Baghdadi, another Iraqi national, became IS's leader. Under al-Baghdadi, ISI initially focused its attention on recruiting new members, attracting support within some segments of Iraq's minority Sunni community, and on attacking the Shi'ite dominated regime of Nuri al-Maliki. The early 2011 outbreak of the Syrian civil war, which began as an uprising against the regime of Bashar al-Assad, led ISI to send some of its militants into eastern Syria. By early 2012, the Syrian civil war was undergoing a dramatic intensification in the level of violence drawing growing Sunni resistance to the Assad regime. ISIS certainly played a part in the ramping up of the Syrian civil war, but only one part, and a smaller one at the time than it does now.¹⁶ For example, in April 2013, al-Baghdadi announced his intention to combine his forces in Iraq and Syria with *Jabhat al-Nusra*—commonly called the al-Nusra Front, an al-Qa'ida affiliate aligned with Ayman al-Zawahiri—under the name Islamic State in Iraq and the Levant. Al-Baghdadi's group rebranded itself as ISIL. However, al-Nusra rejected the proposed merger. The decision not to merge caused the two Islamist groups to compete for recruits and eventually resulted in open fighting between ISIL and the al-Nusra Front.

As the civil war in Syria evolved into an insurgency, ISIL quickly established control over territory in eastern Syria centered on the town of al-Raqqah. The group imposed a strict version of *shari'ah* law and attracted significant numbers of radicalized foreign fighters including westerners. ISIL seized critical infrastructure in eastern Syria and portions of Iraq. It also gained affiliates from jihadist groups outside the Middle East.

¹⁵ Springer et al., *Islamic Radicalism and Global Jihad*.

¹⁶ Charles R. Lister, *The Syrian Jihad* (New York: Oxford University Press, 2015); William McCants, *The ISIS Apocalypse* (New York: St. Martin's, 2015).

In June 2014, al-Baghdadi proclaimed himself as caliph and renamed the group IS. Since then, IS has launched attacks in the Middle East and sought to inspire attacks in the West.¹⁷ Throughout 2016, the group lost substantial amounts of previously controlled territory in Syria and Iraq, with Mosul the only major Iraqi city remaining under IS occupation as of early-January 2017. The loss of controlled territory is primarily due to Russian and Iranian intervention in the Syrian civil war combined with Western support for the Kurdish People's Defense Units (YPG) in Syria and Peshmerga (IPA) based in the autonomous region of Iraqi Kurdistan. While facing battlefield setbacks in Syria and Iraq, it has expanded into the North Africa, especially Libya, and launched successful attacks in Europe and inspired attacks in the US. This pattern is consistent with the finding in the literature that terrorist attacks typically ramp up and cluster in civil wars.¹⁸ In fact, the data we examine for this research reveal the initial surge in attacks conducted by AQI under Zarqawi's leadership tied directly to the insurgency in Iraq that emerged after the fall of Saddam Hussein. This underscores the need to differentiate between classic terrorist groups that do not mature into insurgents and/or social movements and those that do when considering the group's operational dynamics. We opt to focus on one that has made the transition.

Data

Because the focus of our research is empirical, the statistical analysis presented in this study employs information obtained from the Global Terrorism Database (GTD). We chose to use the GTD because it is a publically available open-source dataset that contains information on 2,450 IS attacks conducted through December 2014.¹⁹ A more comprehensive dataset including attacks beyond that period was unavailable. As noted above, the label Islamic State is the most recent re-branding or name adopted by one of the most violent Salafi jihadist groups that has been operational since 2002. Hence, we include attacks conducted by Tawhid and Jihad, al-Qa`ida in Iraq, Mujahedeen Shura Council, Islamic State of Iraq (ISI), and The Islamic State of Iraq and the Levant (ISIL) in this analysis to capture the group's operational dynamics since its first emerged as Tawhid and Jihad.

¹⁷ Warrick, *Black Flags*; Weiss and Hassan, *ISIS*; Stern and Berger, *ISIS*; Fromson and Simon, "ISIS"; Ahram, "Sexual violence and the making of ISIS"; Barrett et al., *The Islamic State*.

¹⁸ Michael G. Findley and Joseph K. Young, "Terrorism and Civil War: A Spatial and Temporal Approach to a Conceptual Problem," *Perspectives on Politics* 10, no. 2 (2012): 285-305.

¹⁹ National Consortium for the Study of Terrorism and Responses to Terrorism, *Global Terrorism Database* (College Park, MD: START), last modified June, 2015, available at: <http://www.start.umd.edu/gtd/>.

Information in the GTD comes from media reporting of individual attacks.²⁰ Because the reliability of sources may vary substantially over time and/or political jurisdiction, information must be documented by a minimum of one independent, high-quality primary source (i.e., presumably free of influence by other interested parties) that routinely report externally verifiable content in order to be included in the GTD. We recognize underreporting of the total number of successful attacks in areas where the media sources are distinctly biased and/or the government controls information flows may happen. With respect to terrorist groups such as IS, however, potential underreporting bias is likely to be relatively modest taken together given the emergence of social media and other non-traditional electronic media sources. Moreover, in the study we are not constrained to a small number of events; rather we have analyzed several thousand successful attacks occurring over multiple years. In addition, because the data are publicly available, this facilitates either verification or replication of our analysis. Consequently, we are confident the GTD is the best source of publicly available data and appropriate for this study.

We employed a series of filters to construct the analysis dataset by querying the GTD for all successful events attributed to IS to screen out ambiguous incidents that do not involve terrorism. First, the violent act seeks to attain a political, economic, religious, or social goal. Second, there is evidence of an intention to coerce, intimidate, or convey some other message to a larger audience or audiences than the immediate victims. Third, the action is outside the context of legitimate warfare activities, insofar as it targets non-combatants (i.e., the act must be outside the parameters permitted by the Law of Armed Conflict and by international humanitarian law as reflected in the Additional Protocol to the Geneva Conventions of 12 August 1949 and elsewhere). The GTD also incorporates a doubt factor for inclusion of otherwise ambiguous cases for which the weight-of-evidence indicates the incident is an act of terrorism.

Applying these initial filters resulted in $n = 2,131$ successful IS terrorist attacks that meet the above criteria. This provides a sufficient number of attacks conducted over a period spanning more than 12 years (147 months) between October 2002 and December 2014 with which to evaluate the impact of leadership periods on continuity and change in the operational dynamics of terrorist attacks.

²⁰ Gary LaFree and Laura Dugan, "Introducing the Global Terrorism Database," *Terrorism and Political Violence* 19:2 (2007): 181-204.

Results and Discussion

We examine a series of metrics in order to have multiple indicators of continuity and change in the operational dynamics of Islamic State’s terrorist campaign. First, we consider the group’s operational tempo measured by the frequency distribution of attacks per month. Next, we assess the severity of each attack in terms of the number of individuals killed, injured, and taken hostage per event. Third, we assess the joint distribution of attacks over tactics and targets. Fourth, we evaluate the predictability of attacks based on patterns identified in the observed sequences of attacks using Markov state transition modeling. We opt to use these metrics because they capture key features of the operational dynamics of a terrorist group over time. Moreover, such open source information tends to be readily available and verifiable unlike alternative metrics such as material support, mobilization, and recruitment.

Our analysis is grouped based on the three IS leadership periods described above. The first two leadership periods (al-Zarqawi and al-Masri respectively) were both 45 months in duration. As of November 2016, the current leadership period under al-Baghdadi has continued for 68 months since April 2010. Our analysis of the current leadership period is restricted to a 57-month time period ending in December 2014 because 2015 and 2016 validated data are unavailable. Table 1 contains the basic details related to each leadership period. Here, we note the sum of the attacks perpetrated by the three different leaders (n = 2,030) identified in Table 1 is not equal to the total number of IS attacks (n = 2,131) because only a single attack was conducted during the brief transition between al-Zarqawi’s death and al-Masri assuming his leadership role.

Table 1. Islamic State leadership period information.

Leader	Start	End	Number of Months	Total Number of Attacks
Abu Musab al-Zarqawi	October 2002	June 2006	45	100
Abu Ayyub al-Masri	July 2006	March 2010	45	202
Abu Bakr al-Baghdadi	April 2010	December 2014*	57	1828

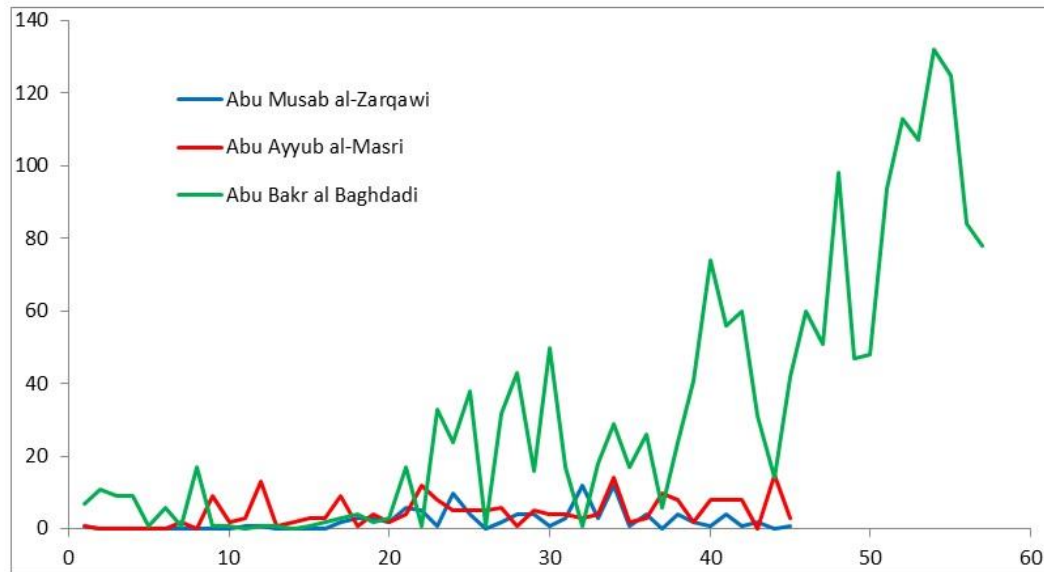
*Data availability for the al-Baghdadi leadership period ends in December 2014, however, his leadership of IS has continued to at least mid-November 2016.

Operational Tempo

Operational tempo provides an indicator of the ability of a terrorist organization to sustain a campaign. Presumably, groups that are more capable have a greater capacity to operate at a higher operational tempo over a longer time interval than do less successful groups. In essence, it is plausible to assume that terrorist groups that survive because they are able to maintain or increase their share of inflicted brutality during their lifetimes making committing terrorist acts necessary for group survival.²¹ In this case, we use the number of successful attacks conducted in a month as a measure of operational tempo.

Figure 1 depicts the number of successful attacks per month conducted by each IS leader. The horizontal x-axis for time indicates the month number associated with each of the three leadership periods. The vertical y-axis is the number of successful attacks conducted by the group. The data are time shifted on the x-axis in order to align the beginning of each leadership period. By overlapping the start point for each series, it becomes a straightforward process to compare visually differences in the group's operational tempo across the three leadership eras.

²¹ Peter J. Phillips, *The Economics of Terrorism* (New York: Routledge, 2016).

Figure 1. Number of Islamic State attacks per month grouped by leadership period.

The figure demonstrates that the number of attacks/month carried out by al-Zarqawi and al-Masri tended to remain constant over time. The number of attacks/month, however, increased dramatically after al-Baghdadi assumed his role as the current IS leader. Under al-Baghdadi, the attacks per month increased by 614% and 1,343% over his predecessors, al-Zarqawi and al-Masri, respectively. A phenomenal uptick in the sheer number of successful attacks combined with a dramatic escalation of savagery that shows no sign of abating characterizes his leadership period.²²

We readily concede, as noted previously, that terrorist attacks happen in a context, which is fluid. That is, the broader strategic and operational environment is not static, circumstances change, and the terrorist group lacks a monopoly on initiating action. Hence, we are not asserting that this change is solely due to leadership transition but that leadership transitions *per se* did not automatically diminish the group's operational capacity. Indeed, as IS evolved, it survived leadership decapitation and simultaneously functioned as a terrorist group and an

²² Warrick, *Black Flags*; Kilcullen, *Blood Year*; Weiss and Hassan, *ISIS*; Stern and Berger, *ISIS*.

insurgent group in recent years. As a result, it certainly is plausible to assume that leaders play some role in driving the strategy and tactics that a group pursues as a conflict evolves, particularly as it captures key areas and controls territory, attracts foreign fighters, and/or faces direct foreign military intervention.

In fact, table 2 reveals clear differentials in operational tempo achieved by the IS under each leader, especially al-Baghdadi in comparison to both al-Zarqawi and al-Masri. The mean number of attacks per month by the IS under its current leader, al-Baghdadi, was 32.07 through December 2014 while it averaged 2.22 attacks per month under al-Zarqawi and increased modestly to 4.49 attacks per month under al-Masri. Unlike the terrorist campaigns waged by his predecessors, examination of the data demonstrates the group’s operational tempo has increased substantially under al-Baghdadi’s leadership. This is attributable to a statistically significant divergence in terms of its ability to conduct successful attacks when compared to the two previous leadership periods (al-Baghdadi with al-Zarqawi, $p \leq 0.001$ and al-Baghdadi with al-Masri, $p \leq 0.001$). On the other hand, a one-way ANOVA test indicates relative continuity with respect to intensity between al-Zarqawi and al-Masri. The difference in operational tempo between al-Zarqawi and al-Masri for the first and second leadership periods respectively was stochastic; that is, attributable to chance ($p > .05$).

Table 2. Islamic State monthly attack statistics.

	Abu Musab al-Zarqawi	Abu Ayyub al-Masri	Abu Bakr al-Baghdadi
Mean	2.22	4.49	32.07
St. Dev.	2.97	4.01	35.49
Median	1	3	17

Attack Severity Metrics

Attack severity reflects the brutality of a single act or series of acts of terrorism in terms of deaths, injuries, and/or hostage taking. From its beginnings, IS has displayed a commitment to using brutality to trigger an apocalyptic clash with its perceived enemies.²³ Table 3 displays the attack severity metrics for each leadership

²³ James L. Regens, Amy Schultheiss, and Nick Mould, “Regional Variation in Causes of Injuries among Terrorism Victims for Mass Casualty Events,” *Frontiers in Public Health* 3 (2015): 1-6; Kobi Peleg, Limor Aharonson-Daniel, Michael Michael, and S.C.

period. The series of attacks conducted by IS and its predecessors between October 2002 and December 2014 caused 13,661 deaths and 24,602 injuries. In addition, the group took 3,559 hostages during that 147-month time span. Not surprisingly, given the heightened operational tempo that IS has achieved under al-Baghdadi's leadership, the number of people killed (68.4%), injured (59.6%), and/or taken as hostages (94.7%) has happened since he succeeded al-Masri in April 2010.

Table 3. Islamic State attack severity.

		Abu Musab al-Zarqawi	Abu Ayyub al-Masri	Abu Bakr al-Baghdadi
Deaths	Number Events	98	201	1708
	Total	1616	2699	9346.13
	Mean	16.49	13.43	5.47
	St. Dev.	27.33	26.27	23.63
	Median	4.5	4	2
Injuries	Number Events	88	190	1643
	Total	3112	6837	14653.23
	Mean	35.36	35.98	8.92
	St. Dev.	74.39	84.30	15.18
	Median	7.5	7	5
Hostages	Number Events	19	17	179
	Total	48	140	3371
	Mean	2.53	8.24	18.83
	St. Dev.	1.81	8.01	39.86
	Median	2	4	3

The results of a one-way ANOVA indicate statistically significant differences among the leadership periods for deaths ($p \leq 0.001$) and injuries ($p \leq 0.001$). As was the case with operational tempo, however, the differences are really between al-Baghdadi and his predecessors and not between al-Zarqawi and al-Masri. There is not a

Shapira, "Patterns of injury in hospitalized terrorist victims," *American Journal of Emergency Medicine* 21, no. 4 (2003): 258-262.

significant difference between the first two leaders, al-Zarqawi and al-Masri, in terms of either the number of persons killed or injured in each event based on difference of means testing ($p > .05$). IS simply has become a much more lethal terrorist group since al-Baghdadi assumed its leadership.

Not surprisingly, there is a significant difference between the current IS leader, al-Baghdadi, and his two predecessors in terms of both the number of victims killed in successful attacks (al-Baghdadi with al-Zarqawi, $p \leq 0.001$; al-Baghdadi with al-Masri, $p \leq 0.001$) and those suffering injuries (al-Baghdadi with al-Zarqawi, $p \leq 0.001$; al-Baghdadi with al-Masri, $p \leq 0.001$). Additionally, we note there is a significant reduction in the standard deviation associated with the number of people injured per attack between al-Baghdadi (15.18), al-Zarqawi (84.3), and al-Masri (74.39). We attribute this decrease in variance and the significant reduction in the number of persons killed per event to a reduction in the group's reliance on suicide bombings as a primary tactic for its terrorist attacks during the period encompassed by our analysis. Suicide bombings produce a large number of deaths per attack and a highly variable number of injuries.²⁴

Interestingly enough, prior to 2015, the severity of hostage situations measured as the mean number of hostages per event did not differ significantly among the leaders ($p > .05$). We note, however, the scale of hostage taking/kidnapping, which has happened under al-Baghdadi, has increased dramatically during 2014 and 2015 as demonstrated by the sexual enslavement of Yazidi women from the Sinjar region of Iraq following the establishment of the self-proclaimed caliphate. In fact, the Research and Fatwa Department of the Islamic State released a pamphlet entitled *Su'al wa-Jawab fi al-Sabi wa-Riqab* ("Questions and Answers on Taking Captives and Slaves"), which is available online in the group's English-language *Dabiq* magazine, asserting that taking female captives and slaves is permissible under Islamic law.²⁵ Hence, because IS abducted 5,270 Yazidi women and girls in August 2014 with at least 3,144 still held in August 2015 according to community leaders, it is likely

²⁴ Regens et al, "Regional Variation in Causes of Injuries among Terrorism Victims for Mass Casualty Events"; Peleg et al., "Patterns of injury in hospitalized terrorist victims".

²⁵ Rukmini Callimachi, "ISIS Enshrines a Theology of Rape," *New York Times*, August 13, 2015, available at: http://www.nytimes.com/2015/08/14/world/middleeast/isis-enshrines-a-theology-of-rape.html?_r=0.

that differentials between al-Baghdadi and either al-Zarqawi or al-Masri for this metric of attack severity would be non-stochastic if data for all of 2015 were available for inclusion in this analysis.²⁶

Tactics and Targets

Because terrorism itself is a tactic involving the intentional application of violence directed against specific targets, this raises the question of whether primary means (i.e., tactics) employed by IS and its predecessors have varied substantially over time. We consider the following 10 target types: civilian, government, military, police, journalists/media, religious entities, infrastructure, foreign government, rival groups, and other. In this section, we examine variation in the dynamics of IS attacks against those targets in terms of four primary tactics:

- (1) Firearms,
- (2) Explosives,
- (3) Hostage-taking/kidnapping, and
- (4) Attacks involving combinations of (1), (2), and/or (3).

Tables 4, 5, and 6 (located in the appendix) contain the joint distribution of attacks over tactics and target for the Abu Musab al-Zarqawi leadership periods. The data presented in the set of tables indicate an initial shift in preferred tactics employed by the group between al-Zarqawi and al-Masri followed by a second shift in tactics between al-Masri and al-Baghdadi. Al-Masri decreased reliance on hostage taking/kidnapping from 19.4% to 9.5% of successful attacks during his tenure as the group's leader. At the same time, the group's use of firearms increased (from 15.3% under al-Zarqawi to 21.1%) and explosives (from 65.3% under al-Zarqawi to 69.5%) as it increasingly transformed into an insurgency. Consequently, the heavy reliance on firearms and explosives as primary tactics during the first two leadership eras reflects the intense sectarian violence between Sunnis and Shi'a combined with the insurgency the group waged against US, coalition, and Iraqi government forces

²⁶ Middle East Media Research Institute, "Islamic State (ISIS) Releases Pamphlet On Female Slaves," *Jihad and Terrorism Threat Monitor* (December 4, 2014), available at: <http://www.memrijttm.org/islamic-state-isis-releases-pamphlet-on-female-slaves.html>.

throughout the period from 2003 through 2008.²⁷ Following the 2011 withdrawal of US combat forces from Iraq, IS again modified its tactics under al-Baghdadi, the current IS leader. The group decreased the use of firearms from its high of 21.1% during the al-Masri era to 8.2%. On the other hand, there was a sharp increase in the use of explosives, which jumped from 69.5% during the al-Masri era to 81% under al-Baghdadi becoming the group's dominant tactic employed in its successful attacks. This resulted in the approximately one order of magnitude increase in total casualties from its attacks.

We now turn to a consideration of the relationship between choice of tactic and choice of target for successful attacks. Comparing the joint distributions of attack operations across the three leadership periods allows us to assess continuity and change in target selection paired with tactics. To identify patterns, we include the 10 target types listed above and expanded the set of tactics evaluated by dividing the explosives category into three subcategories (vehicle-borne improvised explosive devices [VBIEDs], suicide bombing, and other explosives). We also included incendiary devices as a separate category and added the other category to capture any remaining tactics employed.

Given the number of possible combinations of tactic and target pairs for each leader, it is unlikely that systematic mathematical comparisons of the matrices will yield results interpreted easily. Consequently, we take a different approach in order to (1) elucidate the pattern for each leader and (2) compare the patterns over time between al-Zarqawi, al-Masri, and al-Baghdadi. We opt to identify the top three maximum likelihood (ML) operations for each leader based on the actual pairs of tactics and targets employed by the group during each leadership era between October 2002 and December 2014. Here, we define a ML operation to be a high probability tactic-target combination (e.g., VBIEDs and police or suicide bombings and civilians). This empirical approach provides the basis for a straightforward and intuitively understandable way to identify, compare, and contrast the relationship between choice of tactics and choice of targets by the three leaders.

²⁷ Daniel P. Bolger, *Why We Lost* (New York: Houghton Mifflin Harcourt, 2014); David Kilcullen, *The Accidental Guerilla* (New York: Oxford University Press, 2009); Springer et al., *Islamic Radicalism and Global Jihad*; Steven Simon, "The Price of the Surge," *Foreign Affairs* 87 (2008): 57-76.

The data reveal that, while al-Zarqawi was leading AQI, the group primarily emphasized targeting the Iraqi police forces using both VBIEDs ($p = 0.09$) and suicide bombings ($p = 0.09$) in an attempt to undermine the Iraqi government's ability to secure the battle space. Al-Zarqawi also relied on hostage taking/kidnapping of civilians to fuel sectarian violence ($p = 0.08$). Under al-Masri's leadership, civilians became even more preferred as the group's primary target for its terrorist attacks. Vehicle-borne improvised explosive devices deployed against civilians ranked first in terms of tactic-target pair ($p = 0.11$) followed by the use of firearms against civilians ($p = 0.08$) and other explosives against civilians ($p = 0.07$). Under al-Baghdadi, like his predecessors, IS has relied heavily on the use of VBIEDs and continued to employ them against civilian targets emulating the tactics employed under al-Masri. In fact, use of the VBIED tactic-civilian target pair by IS has increased substantially since al-Baghdadi became its leader ($p = 0.21$). IS also has become much more likely to use other explosives such as grenades to attack civilians ($p = 0.17$) as well as shifting back to al-Zarqawi's original emphasis on targeting the police. In the case of the later, IS relied primarily on using other explosives such as rocket-propelled grenades (RPGs) instead of VBIEDs or suicide bombings ($p = 0.09$) although those types of explosive devices have been used too.

Interestingly enough, comparisons across the three periods (i.e., leadership eras) reveal that al-Zarqawi and al-Masri displayed more variation in terms of the relationship between choice of tactic and choice of target for successful attacks. That is, their top three MLs for tactic-target pairs accounted for a lower proportion of all attacks than was the case with al-Baghdadi. Approximately 26% of their attacks involved one of either al-Zarqawi or al-Masri's top three ML operations. However, during the al-Baghdadi leadership era, much more focused choice of tactic and target pair is evident. Under his leadership, IS conducted 46.5% of its attacks using the top three ML operations. This shift to a highly-concentrated approach to tactics and targeting from the more diffuse approach in the past indicates a deliberate change over time to one that emphasizes a more limited but highly lethal set of tactics tied to discrete targets.

Predicting Attack Tactics

The results above raise the question of whether the tactics employed by IS during an ongoing terrorist campaign are predictable. That is, can we predict the probable tactic for a subsequent attack if we know the tactic or combination of tactics used in an earlier successful attack? In essence, if we know the tactics employed in the

immediately prior attack (subsequently referred to as ‘prior’), is it possible to predict accurately the likely tactics employed in subsequent attack following that event (subsequently referred to as ‘current’)?

Calculating a state transition table allows us to address this question empirically with Markov modeling. We examine the conditional probability distributions (CPDs) that compose a first-order Markov state transition matrix in order to determine if attack sequences are predictable.²⁸ With a Markov model, the probability of observing a particular attack tactic at a particular time point (i.e., state) only depends on the attack tactic (i.e., state) at previous time points. This gives us a statistical framework for modeling dependence or predictability between a subsequent attack and earlier successful attacks. In this case, we assume a first-order model with the subsequent attack tactic dependent only on the tactic utilized in the most temporally adjacent attack.

We apply an algorithm to compute the CPDs that estimate the likelihood of a specific tactic or combination of tactics happening in the next successful attack subsequent to the immediately prior attack as a function of the tactic employed in the prior attack. Our modeling procedure treats each attack tactic, including combined tactics, as equally likely to happen in an attack. However, the actual tactics employed in the immediately prior attack have different prior probability based on what actually happened for the set of all attacks, thus using these prior probabilities (i.e., known probabilities based on the empirical data) could potentially improve prediction.

We created a subset of the data by filtering the 2,130 attacks to remove records that do not satisfy the primary attack criteria to estimate the prior probabilities for all attack tactics. Next, we group attacks by day to identify those days that involved either a single attack or multiple attacks on the same day. This filtering results in the following numbers of days with attacks for each leader: al-Zarqawi (86), al-Masri (142), and al-Baghdadi (452). The application of this filter reveals that incendiaries were used in very few attacks ($n = 4$). For this reason, the analysis excludes incendiary attacks. The resulting dataset of successful days of attacks ($n = 680$) involving the use of firearms, explosives, hostage-taking/kidnapping, and any combination of those tactics is used to construct

²⁸ Kai Wang, Mingyao Li, Dexter Hadley, Rui Liu, Joseph Glessner, Struan F.A. Grant, Hakon Hakonarson, and Maja Bucan, “PennCNV: An Integrated Hidden Markov Model Designed for High-Resolution Copy Number Variation Detection in Whole-Genome SNP Genotyping Data,” *Genome Research* 17:11 (2007): 1665–1674; Leonard E. Baum, Ted Petrie, George Soules, and Norman Weiss, (1970), “A Maximization Technique Occurring in the Statistical Analysis of Probabilistic Functions of Markov Chains,” *Annals of Mathematical Statistics* 41:1 (1970): 164–171.

the attack tactic-specific state transition matrices needed to model the dynamics of IS's terrorist operations in terms of attack tactics.

We use the sequences of attacks for each leader to form a state transition table shown in Table 7. Performing summation along the columns and the rows of the table and then dividing by the total number of attacks yields the marginal probability distributions associated with the current $p(x_k)$ and prior attacks $p(x_{k-1})$, respectively. In contrast, dividing the values within the individual cells of the table provides the joint probability distribution of the current and prior attack states $p(x_k, x_{k-1})$. The percentage in each cell of Table 7 corresponds to the conditional probability of the next attack given the current attack expressed as $p(x_k, x_{k-1})$, while the number of occurrences (n) is more associated with the joint distribution because it represents the number of times that a specific attack sequence happened.

The application of a Chi-Squared test for independence provides a straightforward technique to for determining whether the relationship between the current and prior attack types is a chance occurrence (i.e., random). We employ a $p \leq 0.05$ threshold for significance testing with the 95% confidence interval to reject the null hypothesis that x_k and x_{k-1} are independent. The rejection of the null hypothesis implies the conditional probability of an attack given the prior attack $p(x_k | x_{k-1})$ is not equal to the marginal probability of an attack $p(x_k)$. That is, the tactic for the current attack is dependent on the tactic employed in the prior attack.

The results are not consistent across the three IS leadership eras. Under al-Zarqawi, the choice of tactic for the current attack, x_k , was dependent on the choice of tactic used for the prior attack and x_{k-1} ($\chi^2 = 19.38$; $df = 9$; $p \leq 0.05$). The relationship between tactic selection in the prior attack and the choice of tactic for the subsequent attack has become even stronger under al-Baghdadi's leadership of IS ($\chi^2 = 14.91$; $df = 9$; $p \leq 0.001$). The pattern, however, did not hold under al-Masri's leadership with the prior attack's tactical choice not being a good predictor of the tactic employed in the subsequent attack ($\chi^2 = 30.68$; $df = 9$; $p > .05$). This indicates greater variability in attack sequences compared to either al-Zarqawi or al-Baghdadi. On an overall basis, this suggests it may be possible if a coherent pattern emerges to predict accurately the likely tactics employed in a subsequent attack based on the tactics used for the most immediately prior attack.

Implications for the Future

IS embodies each of the characteristics that the 9/11 Commission identified as necessary for executing complex terrorist attacks: (1) leadership; (2) communications; (3) system to recruit, vet, and train members; (4) intelligence collection; (5) moving personnel to targets; and (6) financing.²⁹ Moreover, because the number and diversity of attacks spanning multiple years is sufficient to identify statistically significant patterns, the preceding analysis provides a series of insights about continuity and change in the evolution of the operational dynamics of the self-proclaimed Islamic State and its predecessors. When placed in a broad historical and strategic context, the results illuminate two key issues that have implications for future developments in the ongoing effort by the United States and its allies to degrade and ultimately defeat the Salafist jihadist movement. First, what has been the effect of leadership changes in the IS movement on its operational dynamics? Second, what are the implications for counterterrorism efforts?

Our analysis has a number of conceptual, theoretical, and policy implications, which we raise here. We note, first from its initial emergence under al-Zarqawi through its current form under al-Baghdadi, IS has remained a coherent organization capable of conducting an active terrorist campaign guided by an identifiable leadership and chain of command. Despite successful decapitation of much of its senior and middle level leadership, combined with attrition of its followers through death or capture at multiple points in time (i.e., the al-Zarqawi and al-Masri eras), the group has demonstrated resiliency and been able to reconstitute itself and even expand especially under al-Baghdadi.

We attribute this regenerative capacity to the fact that the Islamic State is not a leaderless phenomenon characterized by self-radicalizing individuals with limited capacity for sustaining terrorist operations as characterized by Sageman.³⁰ Instead, it combines 21st century use of social media and affiliates with the traditional attributes of a coherent organizational structure including top-down command and control; these features are indications that organization is essential rather than irrelevant to sustaining an insurgency and/or

²⁹ National Commission on Terrorist Attacks Upon the United States, *Final Report of the National Commission on Terrorist Attacks Upon the United States* (New York: Norton, 2004), available at: <http://govinfo.library.unt.edu/911/report/index.htm>.

³⁰ Marc Sageman, *Leaderless Jihad* (Philadelphia, PA: University of Pennsylvania Press, 2008).

ongoing terrorist campaigns.³¹ In addition, although the Islamic State's structure is hierarchical, its collective leadership appears to set strategy and provide operational guidance rather than make micro-adjustments to the tactics employed for and target sets of day-to-day operations. Moreover, unlike classical psychological depictions of the terrorist 'mind' and milieu, IS has succeeded in avoiding having its membership face the psychological problem of leading a 'double life'.³² Instead, throughout its existence, recruits to the group typically do not lead 'double lives' as happened with the Real IRA or other more traditional covert terrorist groups but have more in common with insurgents or rebels.³³ In addition, given its roots in the radical variant of political Islam, the group has engaged individuals in collectively forming cohesive bonds grounded in a shared worldview that sanctions violence as religiously mandated with tangible satisfaction derived from participation in violent actions. In essence, the process of Islamic radicalization has a fundamentally political valence albeit one grounded in religious ideology.³⁴ As a result, although eliminating leadership *per se* has proven sufficient as a counterterrorism measure to defeat terrorist group lacking a broader base for support, the IS experience calls into question the assumption that decapitation is sufficient as a counterterrorism measure to defeat what essentially is a social movement using terrorism as a tactic to advance its agenda. We note this caveat applies even though IS support is obtained, in part, by extremely violent coercion using graphic media images of savagery.

Second, IS adopted an explicit and cunning goal-oriented strategy, especially achieving actual control over territory and creating a caliphate, in order to expand geographically and attract new followers. The group communicates its strategy unambiguously to its adherents and adversaries alike. As a result, the combination of IS-inspired and directed attacks publicized widely allowed IS to transform itself from a subordinate al-Qa'ida

³¹ Bruce Hoffman and Fernando Reinares, eds., *The Evolution of the Global Terrorist Threat* (New York: Columbia University Press, 2014); Bruce Hoffman, "The Myth of Grass-Roots Terrorism," *Foreign Affairs* 3 (2008): 133-138.

³² John Horgan, *The Psychology of Terrorism* 2nd ed. (New York: Routledge, 2014); Jerrold M. Post, *Leaders and Their Followers in a Dangerous World* (Ithaca, NY: Cornell University Press, 2004); Jerrold M. Post, "Terrorist Psycho-logic: Terrorist Behavior as a Product of Psychological Forces," in Walter Reich, ed., *Origins of Terrorism* (New York: Cambridge University Press, 1990).

³³ Jeremy M. Weinstein, *Inside Rebellion: The Politics of Insurgent Violence* (Cambridge, UK: Cambridge University Press, 2007).

³⁴ Willem Koomen and Joop Van Der Pligt, *The Psychology of Radicalization and Terrorism* (New York: Routledge, 2016); M. Crone, "Radicalization Revisited: Violence, Politics and the Skills of the Body," *International Affairs* 92, no. 3 (2016): 584-604; Peter R. Neumann, "The trouble with radicalization," *International Affairs* 89:4 (2013): 873-93; Randy Borum, "Radicalization into Violent Extremism I: A Review of Social Science Theories," *Journal of Strategic Security* 4:4 (2011): 7-36.

affiliate into an independent actor replacing al-Qa'ida as the most prominent player in the jihadist movement in less than a decade. At the same time, corrupt and often unstable or repressive governments that do not capture the loyalty of their people and people who lack the ability to influence their governments creates an environmental milieu favorable for propagating the jihadist message that violence is the only means to replace near enemy despots with a 'true' regime.

Third, despite conventional wisdom, contemporary Islamic radicalism is best understood as a social movement waging an insurgency against its perceived near and far enemies rather than as either so-called 'lone wolves' or amorphous groups. IS has tapped into a polymorphous social movement grounded in a shared Salafist religious ideology and world view that provides entre to the jihadist groups through social media, websites and propaganda. The overarching religious valence of the movement is a vehicle for building linkages between individuals that transcend kinship and national boundaries thereby attracting individuals to join IS-based on perception that violence is justified and necessary to revitalize Islam.³⁵ We postulate the failure of Iraq to bridge Sunni-Shia sectarian animosities and the chaos engendered by the ongoing Syrian civil war fits well with the IS narrative that it is a Sunni social movement defending its followers and sympathizers against multiple adversaries and threats.

We offer several caveats with respect to IS. Unlike al-Qa'ida under the leadership of bin Laden or al-Zawahiri, the formal establishment of a caliphate with controlled territory is simultaneously a strength and weakness for IS. It serves as a strong recruiting magnet for foreign fighters including Westerners, which has made it possible to expand members and maintain operational tempo even when the group has suffered attrition due to counterterrorism activities. However, because a caliphate is a distinct geographical concept, it also can become a potential vulnerability for exploitation. In essence, having declared himself caliph, it becomes necessary under al-Baghdadi's leadership for the Islamic State to sustain control over and ideally expand the caliphate's spatial domain thereby offering a focused target for the group's adversaries. Loss of the ability to control territory, in fact, may be the group's long-term Achilles heel. For example, as of early-January 2017, tactical defeats on the battlefield resulted in the loss of large swathes of territory including key towns like Ramadi and Fallujah. However, the group's continued occupation of Mosul despite the Iraqi government's counteroffensives supported

³⁵ Springer et al., *Islamic Radicalism and Global Jihad*.

by US airpower and Special Operations Forces symbolically offsets those losses. Similarly, after its initial expansion into Libya, the group lost control of its haven in Sirte making Libya less likely as a “fallback” option. Nonetheless, even as the Islamic State’s ability maintain control of its caliphate in the Middle East becomes more tenuous, IS has launched and inspired successful terrorist attacks in Europe, North America, Australia, and Asia. Moreover, although the group’s ability to control territory is disintegrating especially in Iraq, the demise of the IS caliphate and/or the group itself—a laudable goal—would probably not cause the larger jihadist movement to collapse or become a disconnected set of self-radicalized ‘lone wolves’ or amorphous terrorist groups. Nonetheless, this may be the most serious threat to the long-term viability of IS.

We also offer the caveat that it is important, however, to avoid equating defeating IS and abolishing its caliphate in portions of Iraq and Syria with ending the global jihadist movement. Unfortunately, the weight of evidence encompassing such diverse groups as *Narodnaya Volya* (People’s Will) in Czarist Russia, the Irish Republican Army, Basque Homeland and Freedom (*Euskadi Ta Askatasuna*, ETA), and the Revolutionary Armed Forces of Colombia (*Fuerzas Armadas Revolucionarias de Colombia*, FARC) is not compelling. The historical experience of each of those groups demonstrates that transforming the viability of a larger social movement does not happen automatically simply by terminating a highly ideological group’s ability to engage in terrorism. This follows because the goal of the former is to deter or prevent specific forms of behavior while the latter inherently involves beliefs not just actions to galvanize and empower followers of a cause. Ironically, if the US finds common cause with Russia and Iran to degrade or destroy IS, this may provide visual ‘evidence’ reinforcing the jihadist narrative that Islam is under attack by adversaries who jihadists already view as infidels and apostates respectively. It is possible, therefore, that even a defeated IS may give rise to a successor entity unless the jihadist movement becomes unable to sustain a critical mass of adherents.

Overall, the results reveal much about driving factors that have contributed to the group’s ability to sustain and increase or decrease its operational dynamics. To disregard these insights is to misunderstand the dynamics of IS and the context in which it exists. In essence, IS poses a multi-level threat that simultaneously is a domestic or indigenous (i.e., within Iraq and Syria respectively), transnational (i.e., cutting across Iraq and Syria), and international (i.e., beyond its center of gravity in Iraq and Syria) phenomenon. In addition, with the exception of the Kurdish Peshmerga and YPG forces or the Iraqi “Golden Division” counterterrorism forces that are essentially light infantry, the reality on the ground to date offers strong evidence that IS confronts local military adversaries

with marginal commitment to battle, especially grueling urban combat. Hence, given the inherent weakness of the group's domestic adversaries in Iraq and Syria, the conventional wisdom asserts that success in defeating IS requires a multidimensional approach based on a coalition between local and outside actors. IS, however, does not pose a co-equal threat to each of the prospective relatively pro-US anti-IS coalition partners (e.g., the EU countries, Saudi Arabia and the UAE, Turkey, and the Kurds) let alone those countries aligned with the Assad regime in Syria (i.e., Russia and Iran and the Shia-led government of Iraq).

Simply put, in the wake of direct Russian and Iranian military intervention in Syria coupled with Iranian influence in Iraq, a long-term commitment to ground combat operations and post-intervention stabilization executed jointly by Western and Gulf state forces no longer remains a viable policy option for the United States and its allies going forward. Although such a course of action remains feasible theoretically, a resurgent Russia's expanded projection of power in the Middle East including an active air campaign combined with Iran's emergence from international sanctions in support of the Assad regime constitute serious constraints to pursuing such action unilaterally even if it were not questionable politically. It strains credulity to conclude that Russia and/or Iran would agree to a cooperative effort with the US and other states having equities in the Middle East that results in a political bargain, which diminishes seriously their own gains on the battlefield. Moreover, the failure to date of American efforts to field a moderate Syrian opposition as a viable military counterweight to both IS and the Assad regime demonstrates the absence of an effective local Sunni Arab partner as an alternative to the Assad regime and/or IS. In addition, without such a Syrian partner, implementing post-intervention stabilization consistent with US national security interests becomes a dubious exercise regardless of the outcome of any political settlement and the ultimate fate of the Assad regime. Hence, even if such a course of action becomes a political imperative for the West, the weight-of-evidence suggests that the 'military and political window' has closed dramatically for unilateral action by a US-led coalition to defeat IS in Syria and Iraq.

Conclusion

As a result, developments internationally coupled with the Islamic State's demonstrated capability to plan and conduct attacks within and beyond Iraq and Syria despite the significant loss of controlled territory and fighters on the battlefield make it likely that IS will sustain some base level of operational capability at least for the near-

term and possibly beyond the next few years.³⁶ We conclude this implies the likelihood of ongoing counterterrorism activities aimed at targeting IS and its adherents even as the group continues to suffer battlefield losses in its insurgency centered on Iraq and Syria. Moreover, when placed in a broad historical and strategic context, we postulate that eliminating IS and its physical caliphate is unlikely to be a sufficient condition to end the global jihadist movement as a social phenomenon. This is not an argument against seeking aggressively to counter IS which is a desirable policy objective but, instead, to recognize that eliminating groups such as al-Qa'ida or the self-proclaimed Islamic State is not synonymous with removing the threat of violent extremism emanating from adherents to the jihadist movement. The two objectives are distinct. It is essential to avoid conflating them in designing and evaluating security policy to address the jihadist threat.

Because this may compel policymakers to re-examine core assumptions underlying the conventional wisdom in order to identify and pursue a coherent, cohesive strategy, we close with four observations. First, rhetoric is not a substitute for strategy. Second, strategy can guide actions to achieve an end state but does not constitute an end state *per se*. Third, counterterrorism and counterinsurgency are not synonyms even when some of the tactical responses to both are identical. Fourth, and perhaps most critically, the commitment of adequate resources and sustained political will to apply those resources to execute strategy is essential to the prospects for success of campaigns designed to counter terrorism or insurgency, especially when a terrorist and/or insurgent group emerges within broader social movements.

³⁶ Kilcullen, *Blood Year*.

Table 4. Joint distribution of attacks over tactics and target for the Abu Musab al-Zarqawi leadership period.

	Firearm	Explosives (Vehicle-borne)	Explosives (Suicide)	Explosives (Other)	Hostage/Kidnapping	Incendiary	Other
Civilian	1.0% (n=1)	4.0% (n=4)	2.0% (n=2)	4.0% (n=4)	8.0% (n=8)	0.0% (n=0)	0.0% (n=0)
Government	5.0% (n=5)	4.0% (n=4)	0.0% (n=0)	5.0% (n=5)	1.0% (n=1)	0.0% (n=0)	0.0% (n=0)
Military	1.0% (n=1)	5.0% (n=5)	2.0% (n=2)	3.0% (n=3)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)
Police	5.0% (n=5)	9.0% (n=9)	9.0% (n=9)	2.0% (n=2)	1.0% (n=1)	0.0% (n=0)	0.0% (n=0)
Journalists/Media	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	1.0% (n=1)	0.0% (n=0)	0.0% (n=0)
Religious Entities	1.0% (n=1)	1.0% (n=1)	2.0% (n=2)	1.0% (n=1)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)
Infrastructure	0.0% (n=0)	2.0% (n=2)	5.0% (n=5)	0.0% (n=0)	4.0% (n=4)	1.0% (n=1)	1.0% (n=1)
Foreign Government	2.0% (n=2)	2.0% (n=2)	1.0% (n=1)	0.0% (n=0)	4.0% (n=4)	0.0% (n=0)	0.0% (n=0)
Rival Groups	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)
Other	0.0% (n=0)	1.0% (n=1)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)

Table 5. Joint distribution of attacks over tactics and targets for the Abu Ayyub al-Masri leadership period.

	Firearm	Explosives (Vehicle-borne)	Explosives (Suicide)	Explosives (Other)	Hostage/Kidnapping	Incendiary	Other
Civilian	8.4% (n=17)	10.9% (n=22)	6.4% (n=13)	6.9% (n=14)	5.4% (n=11)	0.5% (n=1)	1.0% (n=2)
Government	3.5% (n=7)	6.4% (n=13)	1.0% (n=2)	6.4% (n=13)	1.0% (n=2)	0.0% (n=0)	0.5% (n=1)
Military	0.0% (n=0)	0.0% (n=0)	1.5% (n=3)	0.5% (n=1)	0.0% (n=0)	0.0% (n=0)	0.5% (n=1)
Police	2.5% (n=5)	3.0% (n=6)	2.0% (n=4)	2.5% (n=5)	1.5% (n=3)	0.0% (n=0)	1.0% (n=2)
Journalists/Media	0.5% (n=1)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)
Religious Entities	0.0% (n=0)	2.5% (n=5)	1.0% (n=2)	4.0% (n=8)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)
Infrastructure	0.5% (n=1)	2.5% (n=5)	0.5% (n=1)	4.0% (n=8)	1.0% (n=2)	1.0% (n=2)	0.0% (n=0)
Foreign Government	0.5% (n=1)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)
Rival Groups	3.5% (n=7)	0.0% (n=0)	2.0% (n=4)	1.0% (n=2)	0.0% (n=0)	0.0% (n=0)	1.5% (n=3)
Other	0.5% (n=1)	0.0% (n=0)	0.5% (n=1)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)	0.0% (n=0)

Table 6. Joint distribution of attacks over tactics and target for the Abu Bakr al Baghdadi leadership period.

	Firearm	Explosives (Vehicle)	Explosives (Suicide)	Explosives (Other)	Hostage/Kidnapping	Incendiary	Other
Civilian	1.4% (n=25)	21.3% (n=389)	1.0% (n=18)	16.5% (n=302)	4.2% (n=76)	0.2% (n=4)	2.4% (n=43)
Government	1.0% (n=19)	1.8% (n=32)	0.8% (n=15)	1.9% (n=35)	0.4% (n=7)	0.0% (n=0)	0.2% (n=3)
Military	0.3% (n=5)	1.7% (n=31)	0.2% (n=3)	1.0% (n=19)	0.3% (n=6)	0.0% (n=0)	0.3% (n=6)
Police	3.4% (n=62)	5.7% (n=104)	0.6% (n=11)	8.7% (n=159)	1.9% (n=35)	0.1% (n=2)	0.5% (n=9)
Journalists/Media	0.0% (n=0)	0.1% (n=1)	0.0% (n=0)	0.0% (n=0)	1.5% (n=28)	0.0% (n=0)	0.1% (n=1)
Religious Entities	0.1% (n=2)	1.0% (n=18)	0.2% (n=4)	1.5% (n=28)	0.4% (n=7)	0.1% (n=2)	0.3% (n=6)
Infrastructure	0.5% (n=10)	4.3% (n=78)	0.4% (n=8)	4.2% (n=77)	0.7% (n=13)	0.0% (n=0)	0.7% (n=13)
Foreign Government	0.0% (n=0)	0.1% (n=2)	0.0% (n=0)	0.1% (n=1)	0.1% (n=1)	0.0% (n=0)	0.0% (n=0)
Rival Groups	1.0% (n=19)	1.1% (n=20)	0.4% (n=8)	1.0% (n=18)	0.8% (n=14)	0.0% (n=0)	0.3% (n=5)
Other	0.0% (n=0)	0.4% (n=8)	0.2% (n=3)	0.6% (n=11)	0.0% (n=0)	0.0% (n=0)	0.1% (n=2)

Table 7. Islamic State next attack probability conditioned on current attack type for each leadership period.

		Next Attack Type Probability and Number of Occurrences by Leader				
		Leadership	Firearm	Explosives	Hostage/Kidnapping	Combination
Current Attack Type	Firearm	Abu Musab al-Zarqawi	36.4% (n=4)	27.3% (n=3)	18.2% (n=2)	18.2% (n=2)
		Abu Ayyub al-Masri	16.7% (n=5)	76.7% (n=23)	6.7% (n=2)	0.0% (n=0)
		Abu Bakr al-Baghdadi	14.3% (n=5)	60.0% (n=21)	5.7% (n=2)	20.0% (n=7)
	Explosives	Abu Musab al-Zarqawi	11.8% (n=6)	64.7% (n=33)	23.5% (n=12)	0.0% (n=0)
		Abu Ayyub al-Masri	20.5% (n=18)	64.8% (n=57)	9.1% (n=8)	5.7% (n=5)
		Abu Bakr al-Baghdadi	8.6% (n=19)	56.1% (n=124)	6.3% (n=14)	29.0% (n=64)
	Hostage/Kidnapping	Abu Musab al-Zarqawi	11.1% (n=2)	72.2% (n=13)	5.6% (n=1)	11.1% (n=2)
		Abu Ayyub al-Masri	28.6% (n=4)	28.6% (n=4)	21.4% (n=3)	21.4% (n=3)
		Abu Bakr al-Baghdadi	3.1% (n=1)	53.1% (n=17)	15.6% (n=5)	28.1% (n=9)
	Combination	Abu Musab al-Zarqawi	0.0% (n=0)	40.0% (n=2)	40.0% (n=2)	20.0% (n=1)
		Abu Ayyub al-Masri	33.3% (n=3)	44.4% (n=4)	11.1% (n=1)	11.1% (n=1)
		Abu Bakr al-Baghdadi	6.1% (n=10)	36.8% (n=60)	6.7% (n=11)	50.3% (n=82)